

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A process for the recovery of a Lewis acid from a reaction mixture (I) which has been obtained in the hydrocyanation of an olefinically unsaturated compound to a nitrile which has a miscibility gap with water under certain ~~amount~~, pressure and temperature conditions, in the presence of a catalyst system comprising a Lewis acid and a complex compound comprising a phosphorus-containing compound which is suitable as ligand and a central atom which is suitable for ~~this~~ the complex compound, which comprises

- a) removing the ~~said~~ complex compound from mixture (I) to give a mixture (II),
- b) adding water to the mixture (II) and placing the ~~latter~~ mixture (II) under pressure and temperature conditions such that a phase (III) which has a higher content of water than of the ~~said~~ nitrile and a phase (IV) which has a higher content of the ~~said~~ nitrile than of water are obtained, where phase (III) has a higher content of the ~~said~~ Lewis acid than does phase (IV),
- c) adding a liquid diluent (V) ~~which that~~
 - c1) does not form an azeotrope with water and whose boiling point under certain pressure conditions is higher than that of water, or
 - c2) forms an azeotrope or heteroazeotrope with water under certain pressure conditions,

to phase (III) to form a mixture of phase III and liquid diluent V,

d) subjecting the mixture of phase (III) and liquid diluent (V) to distillation under the pressure conditions ~~mentioned in~~ of step c1) or step c2), giving a mixture (VI) which has a higher content of water than of the diluent (V) and a mixture (VII) which has a higher content of the diluent (V) than of water, where the mixture (VII) has a higher content of the ~~said~~ Lewis acid than does the mixture (VI), and

e) subjecting the mixture (VII) to hydrocyanation of ~~an~~ the olefinically unsaturated compound to give a the nitrile ~~which has a miscibility gap with water under certain amount, pressure and temperature conditions~~, in the presence of a the catalyst system ~~comprising a Lewis acid and a complex compound comprising a phosphorus-containing~~

~~compound which is suitable as ligand and a central atom which is suitable for this compound.~~

2. (Currently Amended) A process as claimed in claim 1, where the mixture (VII) has a water content of less than 0.5% by weight, ~~based on mixture (VII).~~

3. (Currently Amended) A process as claimed in claim 1 ~~or 2~~, where the solubility of the ~~said~~ Lewis acid in the diluent (V) under the distillation conditions ~~in~~ of step d) is at least 0.1% by weight, ~~based on diluent (V).~~

4. (Currently Amended) A process as claimed ~~in any one of claims in claim 1 to 3~~, where step b) is carried out in countercurrent in a multistage extraction column.

5. (Currently Amended) A process as claimed ~~in any one of claims in claim 1 to 4~~, where all or some of the mixture (VI) is fed back into step b).

6. (Currently Amended) A process as claimed in ~~any one of claims claim 1 to 5~~, where the water ~~employed~~ used in step b) has a pH of less than 7.

7. (Currently Amended) A process as claimed in ~~any one of claims claim 1 to 5~~, where the water ~~employed~~ used in step b) has a pH in the range from 0 to less than 7.

8. (Currently Amended) A process as claimed in ~~any one of claims claim 1 to 7~~, where an acid is added to the water ~~employed~~ used in step b).

9. (Original) A process as claimed in claim 8, where HCl is added to the water.

10. (Currently Amended) A process as claimed in ~~any one of claims claim 1 to 9~~, where the diluent (V) contains all or some of the unsaturated compound to be hydrocyanated in step e).

11. (Currently Amended) A process as claimed in ~~any one of claims~~ claim 1 to 10, where the diluent (V) ~~employed~~ is a nitrile selected from the group consisting of 2-cis-pentenenitrile, 2-trans-pentenenitrile, 3-cis-pentenenitrile, 3-trans-pentenenitrile, 4-pentenenitrile, E-2-methyl-2-butenitrile, Z-2-methyl-2-butenitrile, 2-methyl-3-butenitrile or a mixture thereof.

12. (Currently Amended) A process as claimed in ~~any one of claims~~ claim 1 to 11, where all or some of the undissolved constituents are separated off from the mixture (II) between steps a) and b) or between steps b) and c).

13. (New) A process as claimed in claim 11, where the solubility of the Lewis acid in the diluent (V) under the distillation conditions of step d is at least 0.1% by weight.

14. (New) A process as claimed in claim 11, where an acid is added to the water used in step b.

15. (New) A process as claimed in claim 11, where the water used in step b has a pH of less than 7.

16. (New) A process as claimed in claim 11, where step b is carried out in countercurrent in a multistage extraction column.

17. (New) A process as claimed in claim 11, where the mixture (VII) has a water content of less than 0.5% by weight.

18. (New) A process as claimed in claim 17, where all or some of the mixture (VI) is fed back into step b.